Survivors of childhood brain tumors who received radiotherapy and were very young at the time of diagnosis may experience cognitive and socioeconomic burdens decades after treatment, according to a study published early online in CANCER, a peer-reviewed journal of the American Cancer Society. Interventions such as cognitive therapies and educational and occupational services may be needed to mitigate such long-term effects.

Therapies for children diagnosed with brain tumors have prolonged the lives of many patients, but survivors may experience a variety of effects from their disease and its treatment. To assess such burdens, M. Douglas Ris, PhD, of Baylor College of Medicine and Texas Children’s Hospital, and his colleagues at St. Jude Children’s Research Hospital, compared 181 survivors of pediatric low-grade glioma with 105 siblings of cancer survivors who were participating in the Childhood Cancer Survivor Study. The survivors and siblings all completed a comprehensive battery of standardized cognitive tests and socioeconomic assessments performed at 16 major medical centers in the United States and Canada.

Survivors were a median age of 8 years at the time of diagnosis and they were a median age of 40 years at the time of assessment. Overall, survivors treated with surgery plus radiotherapy at the site of the tumor had lower estimated IQ scores than survivors treated with surgery only, who had lower scores than siblings. Survivors diagnosed at younger ages had low scores on most of the cognitive measures. Survivors—especially those treated with surgery plus radiotherapy—were less educated, earned lower incomes, and had lower prestige occupations than siblings.

“Late effects in adulthood are evident even for children with the least malignant types of brain tumors who were treated with the least toxic therapies available at the time. Also, these neurocognitive and socioeconomic risks are evident many decades after treatment,” said Dr. Ris. “As pediatric brain tumors become more survivable with continued advances in treatments, we need to improve surveillance of these populations so that survivors continue to receive the best interventions during their transition to adulthood and well beyond.”

This research was supported by the National Cancer Institute with grants to Baylor College of Medicine and Texas Children’s Hospital (R01CA132899), as well as to the Childhood Cancer Survivor Study at St. Jude Children’s Research Hospital (U24CA55727).

**NOTICE:** The information contained in this release is protected by copyright. Please include journal attribution in all coverage. A free abstract of this article will be available via the [Cancer News Room](https://newsroom.wiley.com) upon online publication. For more information or to obtain a PDF of any study, please contact:
Penny Smith +44 (0) 1243 770448 (UK)
newsroom@wiley.com
Follow us on Twitter @WileyNews

**Full Citation:**
**URL Upon Publication:** [http://doi.wiley.com/10.1002/cncr.32186](http://doi.wiley.com/10.1002/cncr.32186)

**Author Contact:** dmris@texaschildrens.org
About the Journal
CANCER is a peer-reviewed publication of the American Cancer Society integrating scientific information from worldwide sources for all oncologic specialties. The objective of CANCER is to provide an interdisciplinary forum for the exchange of information among oncologic disciplines concerned with the etiology, course, and treatment of human cancer. CANCER is published on behalf of the American Cancer Society by Wiley and can be accessed online. Follow us on Twitter @JournalCancer

About Wiley
Wiley drives the world forward with research and education. Our scientific, technical, medical, and scholarly journals and our digital learning, certification, and student-lifecycle services and solutions help students, researchers, universities, and corporations to achieve their goals in an ever-changing world. For more than 200 years, we have delivered consistent performance to all of our stakeholders. The Company's website can be accessed at www.wiley.com

Language: English